

# SKILLED



# HANDS

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ISSUED BY THE  
**NATIONAL INSTITUTE FOR THE BLIND**  
*(Registered under the Blind Persons Act 1920)*

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# THE SKILLED HANDS OF **Blind Workers** CAN HELP TO SPEED THE PRODUCTION DRIVE

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ON THIS PAGE is a list of some of the main industries in which employment is being provided for the Blind. The co-operating employers are making self-respecting and independent citizens of 1,800 non-sighted industrial workers and telephone switchboard operators, together with 100 shorthand-typists. Many of these men and women were formerly employed as a war-time expedient, and are now continuing with sighted fellow workers on equal terms in normal peacetime commerce and industry.

A study of the pictorial and written evidence contained in this booklet cannot fail to show that the blind workers' qualities of concentration, reliability and productivity are a real advantage to any employer who can offer the right type of occupation.

## **INDUSTRIAL**

Engineering  
Radio and electrical engineering  
Woodwork and joinery  
Dyeing and cleaning  
Plastics  
Photographic supplies manufacture  
Domestic appliances  
Motor industry  
Aircraft industry  
Bakery and confectionery industry

## **COMMERCIAL & CLERICAL**

Shorthand-typists  
Telephone switchboard operators  
Technical advisers (previously qualified)  
Commercial representatives (partially sighted)

# ENGINEERING 1

## MACHINE OPERATION

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*“ Their training period was comparable with that of sighted workers, and they could reach reasonable production figures within one week ”*

MARCONI'S WIRELESS TELEGRAPH CO. LTD.

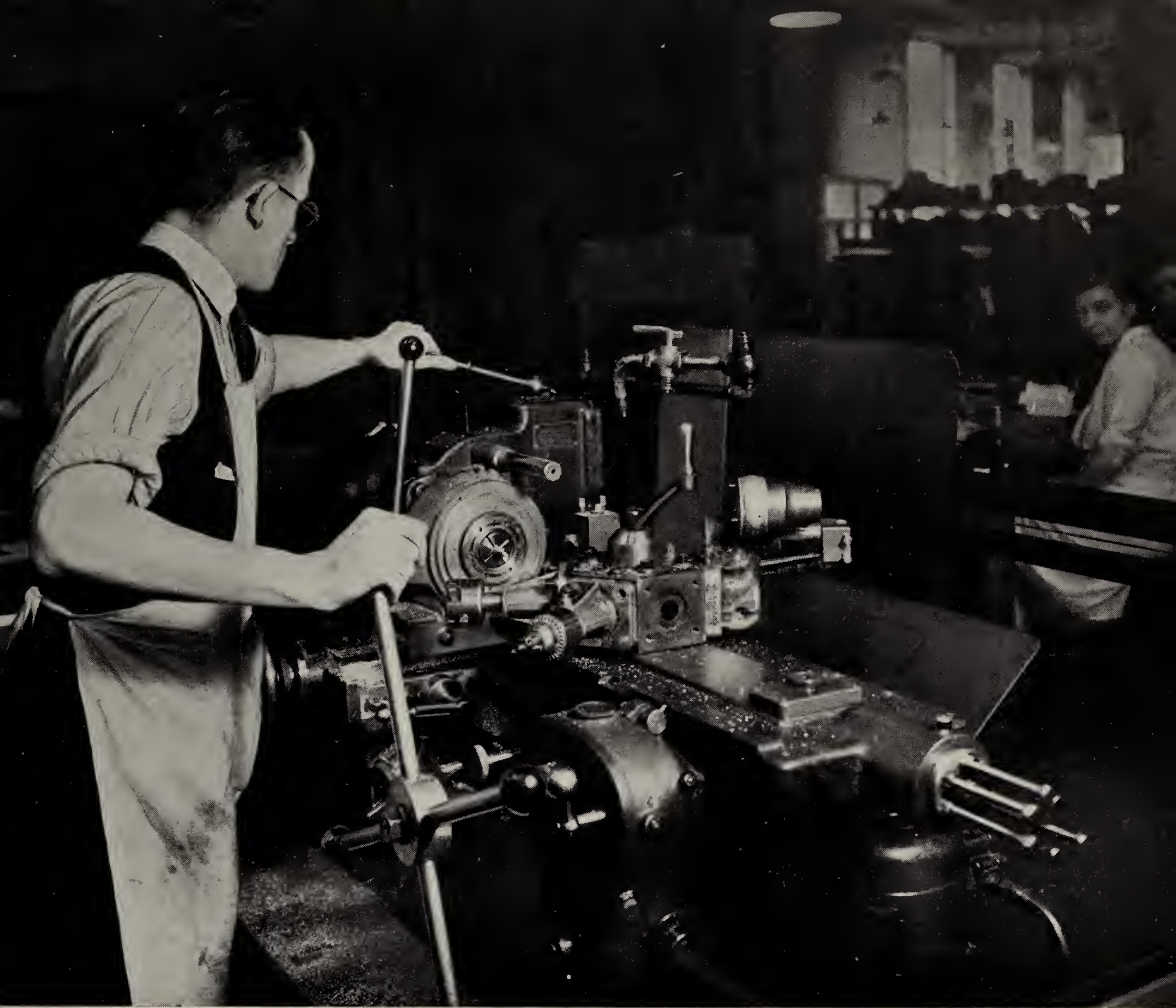
ENGINEERING offers one of the most economic and practical avenues for the employment of the Blind. The operations in which satisfactory placements have been made are many.

Most suitable of all the available work in this trade is that of machine operation. Machines are usually pre-set and, therefore, do not call for the establishment of position and size. Hence, the blind worker is at no disadvantage in comparison with the sighted operative.

Some indication of the experience of employers who have already given employment to the Blind under conditions of peacetime production can be gained from extracts from testimonials received by the N.I.B.

Marconi's Wireless Telegraph Co. Ltd. write of their capstan lathe operators who were originally engaged on grinding and inspection: “ We came to the conclusion that their touch-sense was such that they were definitely in advance of the Sighted on their particular type of work.

“ At the request of the Blind workers themselves, we trained one or two as capstan operators. We learned that other employers had also trained Blind workers on other machines. Our own experience, together with that of other employers whose shops we visited, decided us to increase our complement considerably. They were mainly engaged on capstan lathe, thread-milling machines, and drilling machines. Their training period was



*Multiple tool Turret-Capstan Lathe operation.  
Marconi's Wireless Telegraph Co. Ltd., Albert  
Embankment, London, S.E.11.*

## MACHINE OPERATION - CONTINUED

comparable with that of sighted workers and they could reach reasonable production figures within one week. After a month's work their output could, and would in most cases, reach 120 per cent. of the Sighted. They work in with the sighted operators as if they suffered no handicap, and the extra supervision cost is lower than anticipated. Their tool breakage and accident-rate are lower than sighted workers. The consistent quality of their work and the rhythmic character of their operating surprised us. It is our belief that, *properly trained*, the Blind could handle a large variety of machines and jobs in the majority of our machine-shops."

The aim of the Institute is to place its selected workers, who have been brought to the notice of the Industrial Employment Section, in work on which they can hold their own in economic independence, along with the able-bodied and with other Disabled workers. That this can be achieved is borne out by the fact that already over 700 such cases have been placed after only three years of work by the N.I.B.

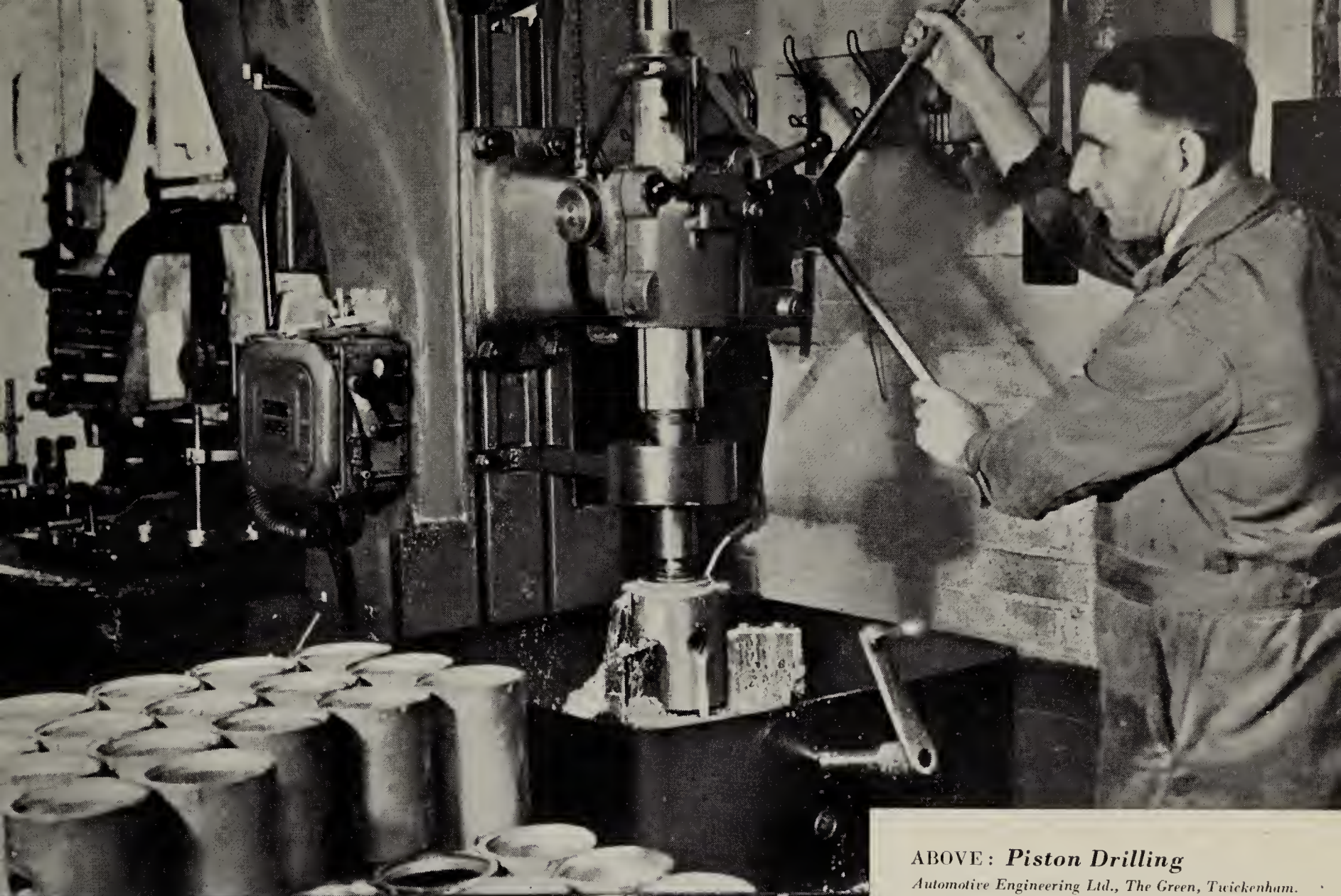
It is no longer a question of "taking a blind person into one's works and teaching him to do a simple operation such as a sighted child of fourteen could perform." Employers are now in a position to obtain skilled Service and Training facilities by getting in touch with the National

Institute for the Blind. The Institute, working in direct co-operation with the Ministry of Labour and National Service, has a staff of Employment Officers whose duty it is to call upon employers. Their activities cover the following aspects:—

1. Investigation and advice on operations available.
2. Introduction of carefully selected Blind workers.
3. Where applicable, Training of the Blind in the works of the employer under the Ministry of Labour and National Service "Training with Employers" scheme as part of the resettlement of the Disabled.
4. Settling in, Follow-up and After-care Service. Regular calls are made at intervals, if employers so desire, with a view to meeting and dealing with the problems of contract-changes and similar questions which may arise.

*It should be stressed that the above services are available if required by employers, but that the extent to which employers take advantage of one or all of them is a matter for arrangement.*

Thus, the initial "settling-in" of the Blind Workers is covered; and by the time the employment officer leaves the works, the executive and operative staff have become familiar with the ways and methods of the non-sighted operative.



**ABOVE: *Piston Drilling***

*Automotive Engineering Ltd., The Green, Twickenham.*



**BELOW: *Machine Lapping***

*The General Electric Co. Ltd., North Wembley, London.*

# ENGINEERING 2 ASSEMBLY

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*“As far as reliability and concentration  
are concerned, the blind  
persons employed here are very satisfactory”*

MORRIS MOTORS LTD., OXFORD

ASSEMBLY is an ideal commencement for Blind Labour in firms where the operation of machines is not available, or where it is desired first to train and employ in simple work, after which an up-grading to machine production can follow.

While excellent output results have been obtained in many firms on Assembly work, it is stressed that machine operation is a better and more productive form of employment, particularly in the case of the totally Blind. It should be emphasised that repetitive operations are not the only ones which can be undertaken by the Blind, and that properly trained non-sighted workers can adapt themselves to short-run work. A partially-blind worker, for instance, with the use of a Braille-reading Micro-meter and adapted scales, can both set and operate a turret lathe. Workers at the factory of The World Moulded Metal Co. Ltd. have been taught to set their own single-purpose machines.

At the works of Morris Motors Ltd., Oxford, a job of dash-board panel assembly has provided excellent employment for the Blind. Close attention was paid to time and motion study by the N.I.B. Employment Officer, and the lay-out of the

work was carefully gone into. The results which accrued from this effort have proved conclusively that a blind assembler can be an extremely useful unit in the production-line of any engineering organisation.

Morris Motors write of their blind employees:—

“As far as reliability and concentration are concerned, the Blind Persons employed here are very satisfactory. With regard to Mr. D., who has been in our employment for a considerable time, the Works Manager ranks him highly amongst the other employees engaged on instrument panel assembly, all of whom suffer from disabilities of one kind or another.”

Adaptations to existing tools and methods can be arranged by the N.I.B. Employment Officers with advantage at times, but the need for these is rather the exception than the rule.

The employment officers of the Institute are all men who have had previous industrial or commercial experience. Their combined knowledge makes it possible to offer employers an expert advisory service on any question or problem that may arise.



*At Morris Motors Ltd., Oxford, this blind operative carries out the complete job of instrument assembly on each panel. The operations involve the partial dismantling of one or two components prior to fitting them to the panel. His production-rate is equal to that of the sighted workers, and his training took only fourteen days under the direction of the N.I.B. Employment Officer.*

# ENGINEERING 3 INSPECTION

## *Precision instruments, adapted to make use of the highly-developed senses of touch and hearing, aid the blind inspector*

THE wartime employment of the Blind on fixed-gauge, thread-gauge and Comparator-inspection demonstrated an ability which they possessed but which had hitherto not been realised. It was that their touch-sense enabled them to judge minute variations in size with greater precision than the Sighted. In the U.S.A., blind workers have been trained to gauge mica by touch within  $\frac{2}{5}$ ths of one thousandth of one inch.

With the passing of the mass-production methods of wartime industry, the question arose as to how this advantage could be made use of in continued employment on short-run inspection of engineering parts.

There is now a complete range of Precision Instruments available for use by the Blind, all of which can be read within the limits stated by touch alone. The range includes:

**Micrometers.** (Moore & Wright standard model with Braille scale and sighted scale.)

**0-1".** Reading within  $\frac{1}{5}$ th thousandth of one inch. (A good Braille reader can work within one tenth of a "thou".)

**1-2".** Readable within the same limits as 0-1". Braille and sighted scale.

**2-6".** Readable within one thousandth of one inch.

**Depth Gauge.** 0-6" readable within  $\frac{1}{5}$ th "thou". Made by Moore & Wright.

**Bevel Protractor.** Readable within one quarter degree. Made by Moore & Wright.

**Height Gauge.** Readable within one "thou". Made by The British N.S.F. Ltd.

**Vernier Callipers.** Readable within one "thou". Made by The British N.S.F. Ltd.

Equipped with these instruments, the partially and totally Blind are able to undertake short-run inspection work for which they can be trained by the Institute's Officers within a few weeks, and their work can be relied upon to be of a consistently high standard.

Dennis Bros., of Guildford, write regarding their inspectors:

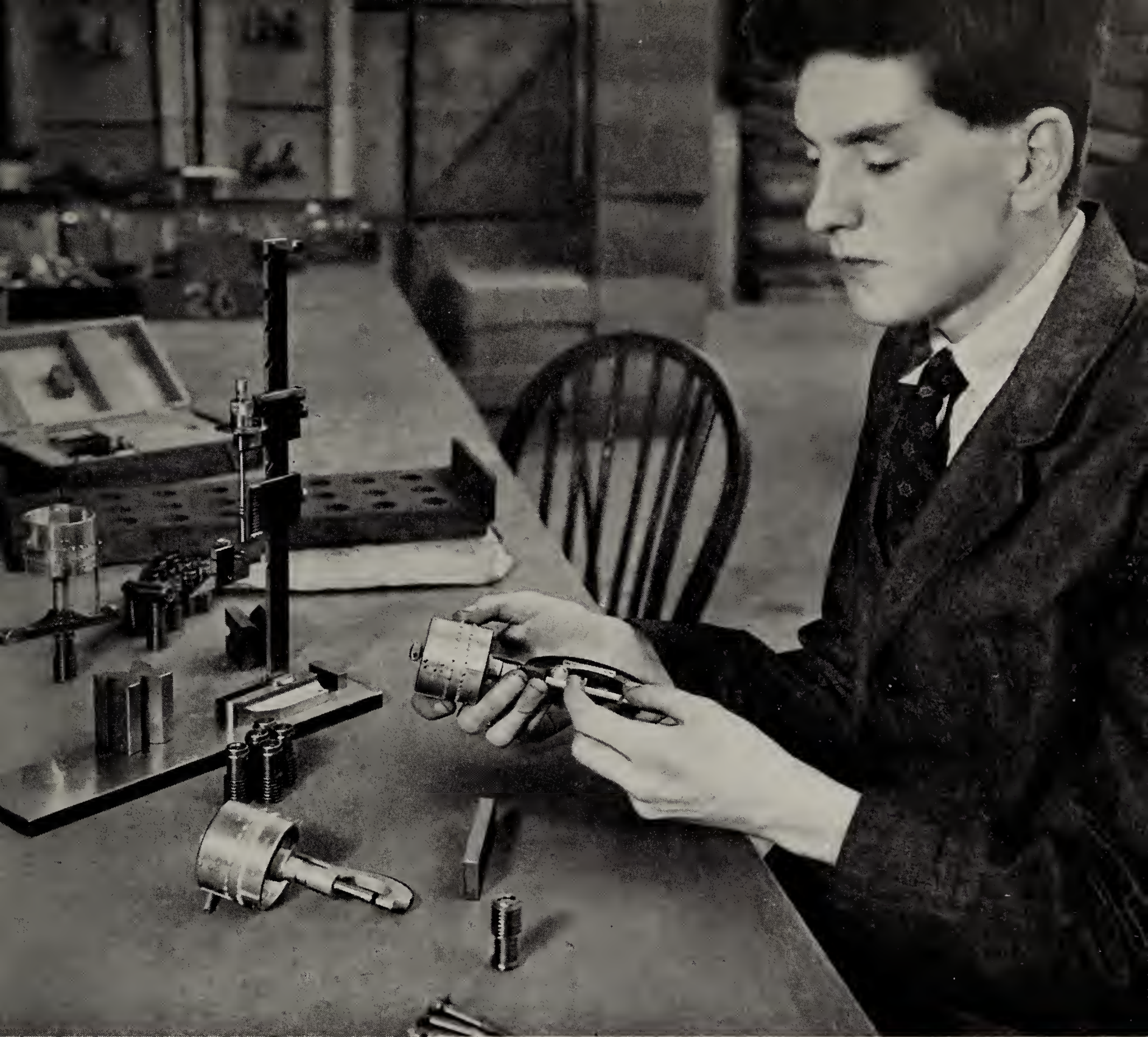
"We are pleased to confirm that the work these men are doing is entirely satisfactory. Their punctuality and reliability are at least equal to the other employees in the same department, whilst any small concession granted to them due to their affliction is more than made up by their power of concentration and attention to their work".

### PRECISION INSTRUMENT LOAN SERVICE

The 0-1" Micrometer is sold to blind workers whose employers are willing to provide them with work calling for its use. The price is that of the standard sighted model current market figure, although the cost to the Institute is considerably more.

Since it is customary for employers to supply the larger sized micrometers to their employees, and also the other instruments included in the above range, it would not be economic to ask them to purchase a full range of adapted instruments costing over £100 per set. The Institute, therefore, is now carrying stocks of these instruments; and part, or complete sets, of the Precision Range can be loaned to any firm who will agree to employ blind or partially-blind workers. If at any time the firm should cease to employ the Blind, the instruments are returnable to the Institute.

"Seeing is believing" is an oft-quoted proverb, but it was never more true than of Precision Inspection by the Blind. A demonstration can be arranged at any time by the Industrial Employment Section's Officers, and it will not fail to impress the technical staff of any engineering firm. All enquiries regarding this form of employment should be addressed to the Institute's Special Investigation and Commercial Appointments Officer who will be pleased to call and discuss the matter in detail.



*Fine Limit Inspection within .0001" at the Works of International Model Aircraft Ltd., Wimbledon. The above worker, trained by the N.I.B., employs the full range of adapted Precision Instruments and is giving accurate and satisfactory service on short run inspection.*

# ARTIFICIAL JEWELLERY

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*“ There is naturally a lower accident risk . . . they do not attempt to deviate from the sequence of operations ”*

THE WORLD MOULDED METAL CO. LTD., ROMFORD

THIS industry, in proportion to its size, is one in which probably more experimental employment of the Blind has been carried out than in other trades.

The reason is that The World Moulded Metal Co. Ltd., of Romford, have gone out of their way to examine the possibilities for providing economic employment for both the partially and totally Blind. At one stage in 1945, prior to moving their works from Park Royal to Romford, they employed 54 non-sighted operatives, and they have continued to employ the blind at their Romford factory.

Mr. Mitchell-Maer, their managing director, took the view that what had been done in the United States could be done in this country, and was one of the pioneer movers in ‘ unsheltered ’ Blind employment in England.

The jobs which have been satisfactorily carried out by his staff since the war cover a wide range of operations from press-operation and turning of ornamental beads, to assembly of the finished trinkets, and carding.

His workers have produced some very convincing data on the characteristics of Blind operatives in comparison with the Sighted. The low accident-rate of the Blind is a point which has been most clearly demonstrated by the experiences of this firm, as indeed it has been throughout the Country.

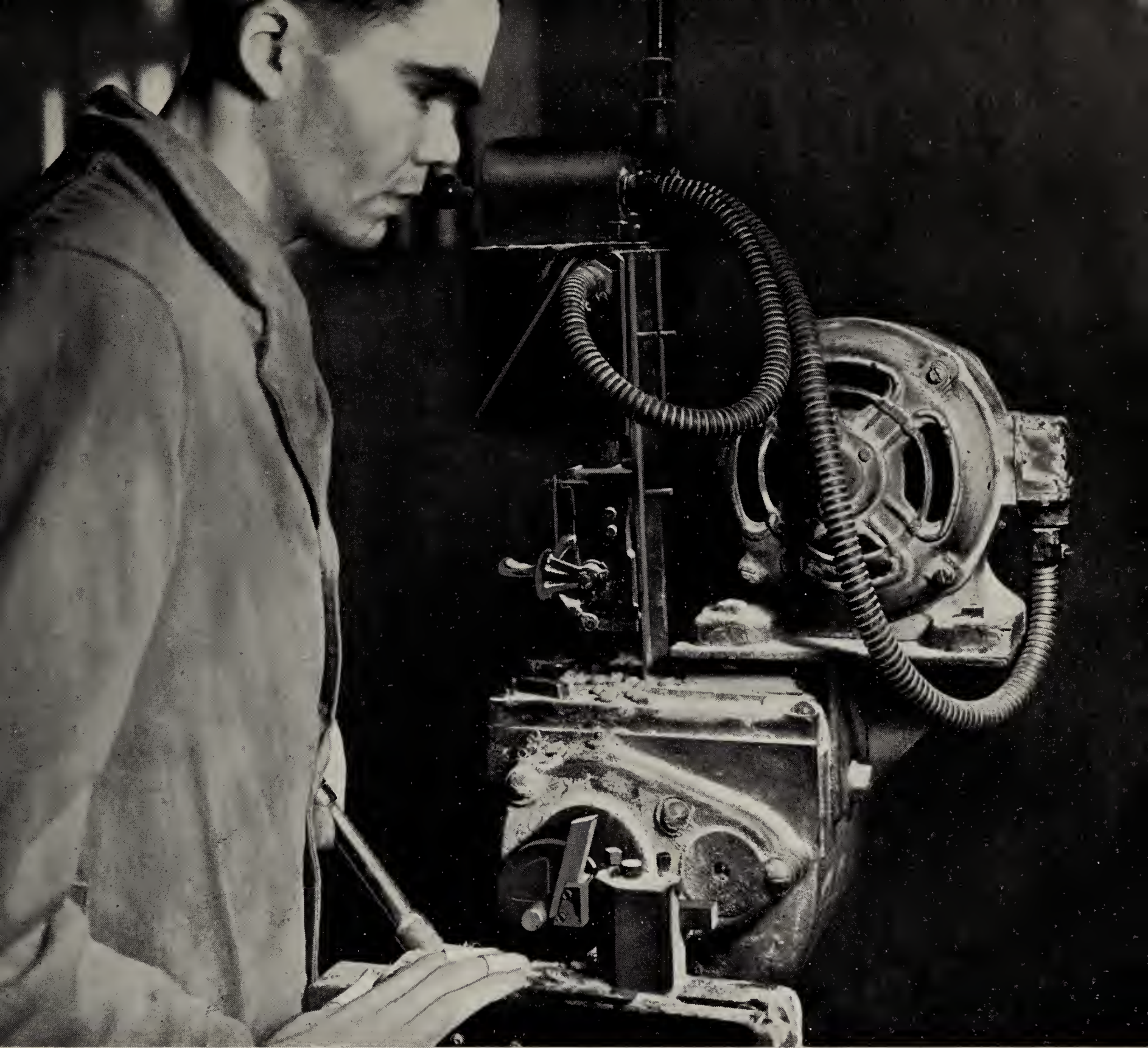
In the United States and Canada some years ago, special funds were created with a view to covering the legal risk of engaging the Blind in unsheltered employment. Finally, as no claims were made upon it to justify its continuance, it was closed down.

In Great Britain the main group of insurance companies do not differentiate between the Blind and the Sighted, and will accept responsibility provided that the job is within the capacity of the Blind Person.

*No added cost is involved by any employer with his Insurance Company if he engages Blind labour.* All the companies ask is that employers should notify them that non-sighted operatives are being employed.

The World Moulded Metal Co. found after three years of employing a large non-sighted staff, that their accident rate on machines and other types of work was actually lower than that of the Sighted. A letter written to the N.I.B. quite recently explains this point rather aptly. They say :

“ There is naturally a lower accident-risk, in so far that the operators receive instructions pertinent to the operation which they are called upon to perform and, being unsighted, there is a much smaller risk of them attempting to deviate from the sequence of operations thereby involving themselves in hazards which the sighted operator consciously or unconsciously takes ”.



*Button Turning at The World Moulded Metal Co. Ltd., Romford.*

*The buttons are made of plastic cane or rod which is inserted into the machine by the worker and gradually fed through. Each button is accurately turned. The operative, by means of touch, sets the position of the rod. Each operative is able to set his own tool and knows instantly when it needs sharpening. The work is not, of course, to fine limits : but the same principles of operation and setting can be applied to the fine-limit work of Engineering by the use of specially adapted Braille-scales on the cross-slide of a lathe and the use of a Braille-marked Micrometer. The training of a Blind Machine Operator consists of a series of stages of instruction, together with the learning of " safety-lanes " to the controls with a view to avoiding risk of coming into contact with a moving part.*

# WOODWORK AND JOINERY

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*The partially-sighted, under specialist advice,  
can organise their remaining  
vision to undertake efficiently a selected job*

IN this industry there is an opportunity for some excellent types of employment for the *partially* and totally blind.

“Blindness,” as recognised by the Blind Persons Act, does not necessarily mean a total absence of vision. When the delicate organisms of the eye are affected by accident or disease, it frequently happens that only a section of the field of vision is impaired. Thus we have the case of the man or woman who has no central (or detailed) vision. These persons cannot read anything but large headlines, yet have no trouble at all in getting about, as their “side, top and bottom” vision are normal. Their sight is simply of a type in which there is a central “gap”. Then we have the other type, for example, in which every vestige of “side, top and bottom” vision is absent. *They have Central or “Tunnel” vision and can read perfectly,* but the field is so reduced that they give the impression of not seeing much at all when walking about.

*Each of these and other types of partial blindness can, with ophthalmic surgeon’s advice, be provided with employment suited to their disability.* The Woodwork and Joinery Trade is one in which this question of degree and type of vision applies particularly.

For the totally blind there is the wood-router, which is eminently suited to the Blind in view of the fact that even the Sighted cannot look at the pin on which the jig is operated. Disc, Belt and Drum Sanding Machines, Jig-boring and Assembly, are all possible.

For the “partials” there are possibilities, and placements have been made on single and double-edged tenoning machines and morticing machines, together with recessing machines.

The Bath Artcraft and Cabinet Making Co. Ltd. write of one of their Blind Router Operators (trained by the N.I.B. in co-operation with their foremen and charge-hands) as follows:

“We are extremely pleased in every way with the blind operative, Mr. W., whom you brought to us for employment. His concentration and adaptability have to be seen to be believed, and his production is equal to, and in some cases better than, that of a sighted person”.

Henshaw’s Institution for the Blind in Manchester, and the Glasgow workshops for the Blind, have each operated for many years a machine-joinery and cabinet-making shop, staffed entirely by totally and partially blind workers. These shops have proved extremely efficient, and have maintained a high quality of production.



*Wood-router operation at the Bath Artcraft and Cabinet-making Co. Ltd., Bath. This machine is a standard-type router without adaptation.*

*The wood is placed in a jig, which is then rested on a central pin on the table of the machine. The pattern to be cut out is on the underside of the jig, the pin being a guide which is traced around the jig-pattern by moving the jig across the table. Thus, a duplicate pattern, identical with the jig, is produced by the high speed guarded cutter of the router.*

# STANDARDISED PACKING

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*“ Among blind workers, good timekeeping is the rule and absenteeism the exception ”*

A GENERAL VERDICT FROM STAFF MANAGERS

**P**ACKING is a job in which the call is mainly for female labour. Blind women have proved themselves quick and careful packers in a variety of industries, notably the Bakery and Confectionery Trades.

Among other examples are the packing of films and plates in the dark-rooms of photographic material manufacturers such as Kodak Ltd., and the boxing of plastic components in the works of De La Rue & Co. Ltd.

The idea that the Blind will be a burden on the employer, from the point of view of added responsibility, occasionally arises at the time of coming into contact with what is obviously a relatively new departure in the employment world. In actual practice, however, one employer after another has proved that such a belief is unfounded, and that the Blind worker is more independent than dependent. After the first day or two in a factory, he learns the layout of the works and can find his own way about without aid in many cases. At the most it is only necessary to take him from the gate to the bench and to the canteen. On leaving the works, he needs to join his particular bus or tram queue, and can be left to carry on with his journey confidently.

On a number of occasions employers have said that the non-sighted workers in their employ have been a stimulus and a mental tonic to their sighted workers. The reason is not far to seek. When sight is withdrawn it leaves the mind free to concentrate on the impressions conveyed by the other senses, and at the same time a number of distractions which are common to the fully-sighted are removed. Thus the properly adjusted blind person learns to be more systematic and to work with closer application.

So true is this and such has been the experience of employers, that it has become a recognised fact that it is only necessary to obtain employment for one good “ pioneer ” blind employee in any firm and others automatically follow if they are available in the area.

The types of work normally carried out in the Bakery and Confectionery Trade are ideally suited to the totally blind, and extremely good results have been obtained in a number of firms.

Fullers Ltd., of Hammersmith, write: “ We have employed two blind workers here in our bakery department since 1944, and they have proved entirely satisfactory. They are punctual and careful workers—in some respects, indeed, better than those gifted with sight ”.



*At Fullers Ltd., Hammersmith : two girls shown in this photograph are employed on wrapping and packing cakes. They have developed a degree of dexterity which is a perfect example of what can be achieved by the sightless.*

# THE SPECIALISED JOB

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*On work that demands an acute sense of touch, hearing or smell, the Blind are often superior to the Sighted*

**B**LINDNESS brings its handicaps, but it also brings certain advantages which are peculiar to this physical defect.

It has already been pointed out that, owing to the increased sensitivity of the touch-faculty, the Blind are better Inspectors and Viewers.

Employers are asked to consider what types of work may exist in their factories in which the Blind and Partially-Blind may, perhaps, be able to operate with greater efficiency than the Sighted, to the mutual advantage of all concerned.

Some further examples of this aspect of the employment of the Blind are cited in the following list of jobs and firms:

1. Kodak Ltd. employ blind girls in their dark-rooms on various operations. Since the sighted operative works in a dimmed light and really uses the touch-sense to a large degree, it is obvious that a blind girl is both equally efficient and psychologically happier in such work than the fully-sighted.

2. Time and temperature photographic-work such as Mass-Miniature Radiography. Kodak

Ltd. have been extremely interested and co-operative in this direction, and have trained a group of blind girls as Dark-room Technicians. The use of a special Braille Thermometer is necessary in the case of the older types of equipment, but this is available. All development is done without visual inspection in standard tanks.

3. Aural inspection for tone, pitch, etc. A blind ex-pupil of Worcester College for the Blind, who is an expert clarinet-player, is employed by a well-known firm of musical instrument-makers in testing wood-wind instruments. "Pitching" of Mouth-organ Reeds is another possible job.

4. Work involving the use of perfume discrimination in the Cosmetic Industry is also a very suitable source of employment.

These suggestions offer considerable food for thought. They are some indication of the lines along which really satisfactory conditions of employment may be established, and along which the Industrial Employment Service is ready to co-operate in careful investigation.



*Kodak Limited, Wealdstone, recently sent us the following letter concerning their blind workers :*

*“ Kodak Limited, Plate Department, have employed blind operators for the past three years in the Packing Section. The work entails the packing of Photographic plates under dark-room conditions. At the present time, this section employ four semi-blind operators. The work involved includes several different operations, from handling sheets of glass*

*to the final boxing of the packet. All operators are trained in the Departmental Training School. The semi-blind operators have proved to be very satisfactory workers. They are good time-keepers, keen on producing work of good quality and in the time required. They work on a Bonus Incentive Scheme, and it is interesting to note that two of the semi-blind operators are the fastest workers in the room, and at the same time maintain the necessary quality standards in the packing section.”*

# THE RADIO INDUSTRY

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*“14 persons employed on 90 different operations ;  
their production rate compares  
favourably with that of sighted operators ”*

PHILIPS LAMPS LTD., MITCHAM WORKS, SURREY

THE manufacture of radio components and sets is already proving to be one of the best sources of employment for the Blind. On page 24 is a list of operations which, though by no means complete, is some indication of the scope offered by this trade.

Firms which have carried out the experiment, and have proved it to be a workable and economic proposition, include Osram Valve Co. Ltd., the G.E. Co. Ltd., Electronic Tubes Ltd., Igranite Electric Ltd., Foster Transformers & Switch-gear Ltd., The British Tungstam Radio Co. Ltd., and Philips Lamps Ltd.

Philips Lamps Ltd., at their Mitcham Works, have gone very thoroughly into the entire question of the types of work which exist in their plant, and

employed a totally blind investigator for over a year. He was given a complete run of the factory, and allowed to move about without assistance and to operate any machine which he felt confident that he could handle. As a result, the executive and operative staff of this firm quickly became accustomed to the ways of the Blind Person, and had sufficient confidence in the idea to embark on the initial employment of the first group of blind trainees. They now write :

*Philips Lamps Ltd., Mitcham Works, Surrey*

COMPARISON OF BLIND WITH SIGHTED OPERATORS

“ We employ 14 blind and partially-sighted persons: 3 boys under 21, 5 men and 6 women. Up to the 14th December, 1946, they had worked between them 243 weeks, an average of 17·1 weeks



*Annealing radio valve pins in open gas flame.  
This flame is shielded for the protection of the  
operator, who is also protected against radiated  
heat. Philips Lamps Ltd., Mitcham Works,  
Hackbridge, Surrey.*

per operator. They have been employed altogether on 90 different operations varying from 1 to 21 operations per employee."

### PRODUCTION

Their production rate compares favourably with that of sighted operators. It is equal to, and in some cases slightly more than, that of the normal employee. In two cases only, output is 2 per cent. and 5 per cent. respectively lower than that of the shop average. The quality is slightly better than that of normal operators.

### MOBILITY

Within the groups of suitable jobs which can be attempted by them, their mobility is good and equal to that of sighted operators. In this smaller range of work they are adaptable, and re-training on new jobs or groups of jobs requires only a short time.

Satisfaction with blind operators is general. Several Departmental Heads are willing to employ more blind people, while others who have no blind workers in their department at present, would be willing to give them a trial.

The only adverse comment is that their employment places a small additional amount of work on shop supervision, as these blind people have to be specially taken to cloakrooms, canteen, etc., but

this additional work is in all cases gladly undertaken. Good timekeeping, a high staying power on the job and a high working morale have been emphasised generally by the supervisors for whom they work.

The Radio Industry has very long runs of work of a kind which lends itself particularly to the less able Blind. It should not, however, be thought that the Blind are incapable of non-repetitive work. Far from it. But the selection of non-repetitive work is a matter calling for the skill and experience of the Employment Officers of the N.I.B. and this service is at the disposal of all employers.

There is also the question of change-over from one type of operation to another. Here again, the Blind can be and are being trained in adaptability, so that they can be switched from one job to another as contract demands necessitate.

The officers of the N.I.B. Industrial Employment and Placement Service are prepared, if employers so desire, to train the Blind in a number of operations with a view to meeting this need. If, at a later date, there are new types of work which call for further training, this is but a part of the Service which the N.I.B. can provide.

Radio is an example of the industries in which training on more than one operation is already proving its value. It frequently happens that



*Drilling radio set piece parts. In this operation three holes are required. An indexing jig is used and the point of the drill is located within the gripper. In addition the drill is pre-centralised. Philips Lamps Ltd., Mitcham Works, Hackbridge, Surrey.*



*Glass Cane Cutting on small guarded serrated cutting-wheel. The operation calls for a delicate touch-sense with a view to eliminating waste resulting from rough edges and breakage. Philips Lamps Ltd., Mitcham Works, Hackbridge, Surrey.*

## RADIO-CONTINUED

work can be provided on one operation on a given component for part of a day or week only. If whole-time employment is to be provided, another job must be found. To maintain the maximum degree of reinstatement as a Disabled Person, it is essential that a Blind operative shall be given no special concessions; and the policy of allowing a non-sighted worker to "stand by" during breaks of continuity of work (while still paying him) shall be avoided.

The aim is to develop maximum efficiency and output. Attaining efficiency is a matter of training and experience. The ability to develop a high output, provided the job has been carefully selected, is a factor which, by reason of their added concentration, the Blind can develop without effort.

Here are some of the Radio operations on which Blind Labour is engaged.

### VALVE MANUFACTURE

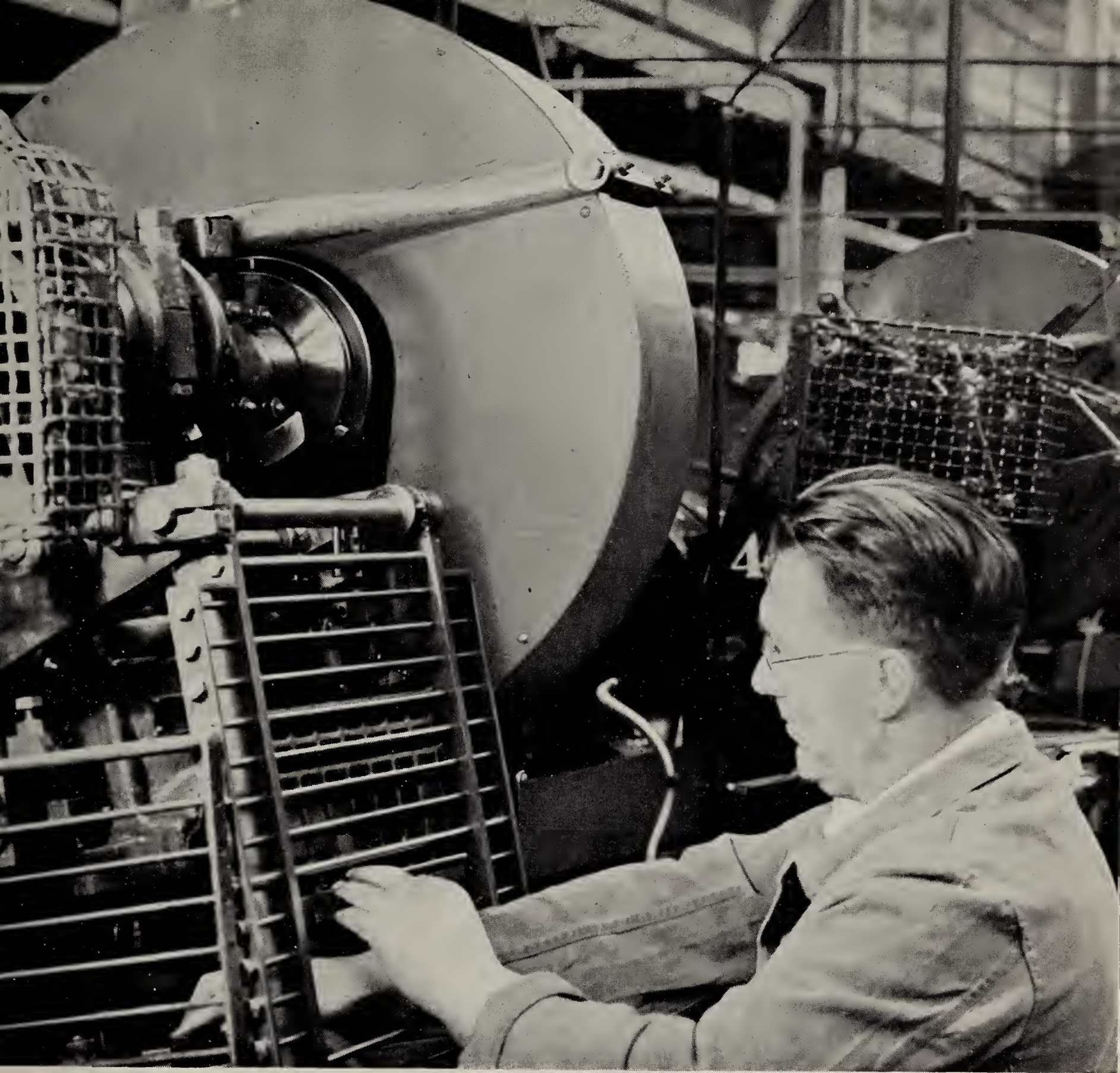
Grid Bumping	Gauging Sprayed Heaters
Eyeletting	Assembly Interplate
Press Operation	Screen 3209 Tube
Cathode Loading	Grid Winding
Grid Bending	Grid Cutting Chopper
Packing	and Cropper
Anode Basket Weaving	Unravelling
Capping	Loading Cathode Spray
Aural Inspection	Spigot
Tube Grading	Re-forming Electrodes
Glass Rod Cutting	Taggin Bases
Pentode Valve Assembly	Valve Packing
Annealing Machine	Foot Turning
Surface Flaw Testing	Mica Eyeletting
Machine Die Lapping	Valve Washing
and Swaging	Pasting Valve Bases
Hand Lapping	Mica Spraying
Foot Making	Cathode Forming Press
Heater Bending	

### RADIO COMPONENT MANUFACTURE

Inspection
Assembly of Transformers
Coil Taping
Armature Winding (coarse gauge)
Press Operation—Power, Foot, and Fly
Capstan Operation and Threading
Stacking Laminations
Cropping Plates
Coil Compressing Machine
Goods Inwards Inspection Micrometer (Millimetre)
Goods Inwards Inspection Go and No Go Gauges

### RADIO SET MANUFACTURE

Assembly	Press Operation
Drilling (Jig)	Capstan Operation and Threading



*Piercing radio set component parts on 25 ton developed power press, equipped with a pre-closing interlocking guard which has been developed by the Company for this type of machine. This guard gives a 100% absolute safety factor.  
Philips Lamps Ltd., Mitcham Works, Hackbridge, Surrey.*

# DYEING AND CLEANING

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*“ An ideal employee—punctual, always willing to work to the best of his ability, and a good mixer ”*

WALKERS (DYERS AND CLEANERS) LTD., LEYTON, E.10

THE types of industry dealt with in the earlier pages of this booklet do not exist in every town. The Dyeing and Cleaning Industry, however, is one which is more widely distributed.

Considerable success has been obtained by the employment of the Blind, particularly the partially-Blind, on the work of Hoffmann Press operation. The touch-sense of the non-sighted person, and his naturally systematic type of mind, enable him to be easily trained to master the sequence of operations needed to fold and press a garment.

It should be stated frankly, however, that it is not considered possible, in the case of extremely low-visioned persons, for work other than the heavier type, such as trouser-pressing, to be undertaken. But partially-sighted workers with a wide field of vision should be capable of handling the lighter press-work which normally calls for the more skilled craftsman's attention.

Best results have been achieved in the large dyeing and cleaning works where there is a continual long run of work of suitable character.

Training for this class of work is longer than that needed for many of the more repetitive types

of factory employment, but the N.I.B. Officers are available to assist in this direction, and efficient production can be attained in a matter of a few weeks.

In all cases where a blind worker needs a prolonged course of training, the cost of his maintenance during the necessary period is a matter which can be arranged with the Ministry of Labour and National Service, in keeping with their general scheme for training of the Disabled in the works of employers. The services of the N.I.B. officers are, of course, free to the employer, and these services are yet another avenue along which the Institute utilises the funds so generously contributed by the public for the welfare of the Blind.

Walkers (Dyers and Cleaners) Ltd., Leyton, have written regarding one of their blind press operators:

“ Concerning Mr. R., we can state with all sincerity that the work he produces is completely up to standard, in fact, never failing. He has been with us two and a half years. . . . Mr. R. is an ideal employee, is punctual and always willing to work to the best of his ability, and a good mixer.”



*Hoffmann Press Operation at Walkers (Dyers and Cleaners) Ltd., Leyton, E.10. The entire work of operating the press, including steam and heat regulation, is undertaken by the operator without any aid from a sighted assistant. He detects previous folds in the garment by touch and, once having been trained, there is no risk of 'double-fold' pressing.*

# IN COMMERCIAL LIFE

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**TYPING :** *“a high standard of accuracy and layout”*

UNILEVER LTD., BLACKFRIARS, E.C.4

**SWITCHBOARD OPERATION :** *“handled with considerable skill and tact”*

MOORE, STEPHENS AND CO., CORNHILL, E.C.3

THE employment of defective-visioned and blind persons is by no means confined to work of an operative or factory type.

Blindness attacks all levels of the social and intellectual scale, and it is obvious that to place a well-educated person in work of an operative character is not a good thing socially or psychologically.

The incidence of Blindness being higher amongst industrial workers than in the other groups, the Employment Service has been mainly directed towards factory-work.

There is, however, a special Investigations and Commercial Appointments Officer employed by the N.I.B., and his intimate knowledge of the possibilities of employing the more intelligent Blind is at the disposal of employers.

The first aim, when blindness attacks any employee in a technical type of job, is to endeavour to reinstate that employee in his old occupation. Space does not permit a lengthy outline of what has been done for the Blind in this category, but

two examples will serve to illustrate the scope of such employment.

The first is the case of a former Works Manager with a pharmaceutical qualification. He is now in the sales department of a well-known firm of proprietary branded products manufacturers. His work consists of dealing with all technical enquiries received from the general public; he is, in short, the “customers’ friend”.

The second is a man who worked at the New Southgate factory of Standard Telephones and Cables Ltd. as a costing and rate-fixing department employee with a thorough knowledge of the machine and tool-room systems. He was blinded as a result of enemy action, and is now employed by this firm in their Personnel Department and deals with about 200 junior male employees. With the aid of his knowledge of Braille and Braille Short-hand, and equipment supplied by the N.I.B., he can undertake the entire range of his duties with confidence.



*At Unilever Ltd. the blind shorthand-typist uses a Braille shorthand machine which enables recordings to be read by touch at speeds comparable with the standard sighted systems. The Braille shorthand system is precise and accurate, and there is no ambiguity in outline-reading. Margin-setting and tabulation are made simple and accurate by the use of specially-fitted Braille margin-scales. Many trained blind typists have passed the Royal Society of Arts examinations in both shorthand and typewriting.*

## COMMERCIAL APPOINTMENTS - CONTINUED

For those with no previously acquired technical knowledge, the problem of employment is not so easy. Nevertheless, the N.I.B. have to deal with such cases, and niches must be found into which they can fit. If arrangements can be made for training in which suitable technical knowledge can be acquired to fit the worker for an advisory job, so much the better. Instruction and technical advice are forms of employment which are eminently suited to the Blind. The Head of the Service was himself a technical representative to a commercial firm for ten years, although registerable as blind within the meaning of the Blind Persons Act.

A form of employment which has been developed and extended over many years is that of Shorthand and Typewriting. Each person trained as a shorthand-typist is given an intensive course of Braille-shorthand and touch-typing instruction. In the case of the young blind persons, this course lasts four years and is given at the Royal Normal College.

For the person with previous office experience and, perhaps, a knowledge of sighted stenography and typewriting, there are adult courses available elsewhere. These courses, while no less thorough, are shorter in duration since the essential background has already been acquired.

The numbers available for training in the above subjects are, however, limited by reason of the lower incidence of blindness in this level of intelligence, as mentioned previously. All employers of office workers, if faced with the problem of one of their employees losing his or her sight, are earnestly asked to give the proposition of reinstatement as shorthand-typist their serious consideration.

It should not be forgotten, once more, that a Blind Person is also a Disabled Person, and will rate among the other Disabled in the quota employed by any firm under the Disabled Persons (Employment) Act, 1944.

Some of the best shorthand-typists who have been placed by the N.I.B. Service are engaged on work such as Minuting or Confidential Typing, where the fact that Braille Shorthand is not readable by the Sighted makes their notes of great value from the angle of privacy.

The Blind can also operate Dictaphones and Ediphones. The course of training is a short one and can be easily arranged, thanks to the interest of the manufacturers of the apparatus.

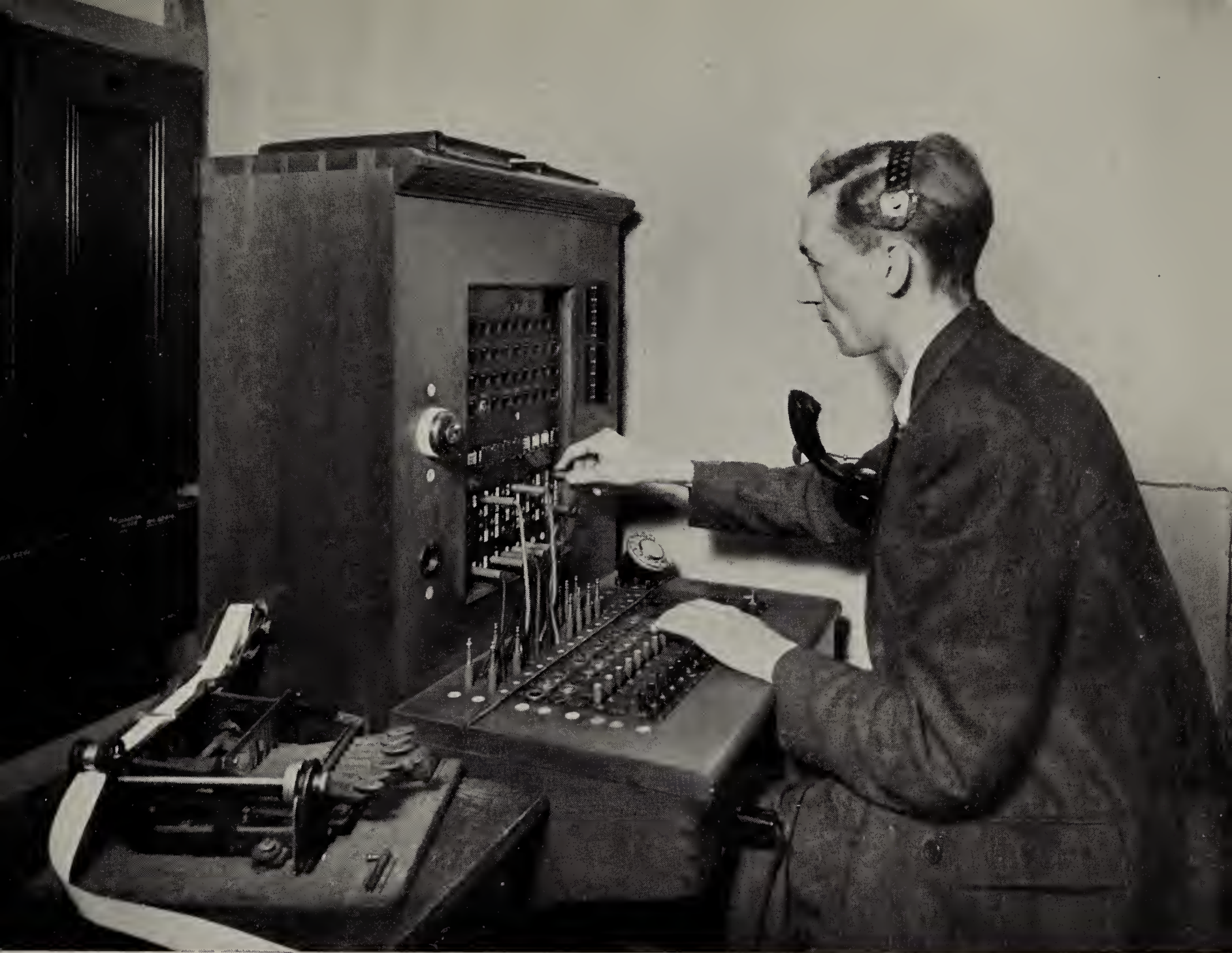
Unilever Ltd. recently wrote to the N.I.B. about one of their blind typists:

“Miss W. joined this company in August, 1946, as a shorthand-typist. She is working in a large and busy section of our typing service, and has become a useful and very popular member of the staff. She has adapted herself with extraordinary rapidity to the normal routine of the section. Her work is of a high standard and her accuracy and layout compare favourably with that of any other typist in the section.”

Telephone switchboard operation is another outlet for the services of the more educated and intelligent Blind. A Blind Telephone Switchboard operator, when trained, is a highly proficient and technically informed worker.

Moore, Stephens & Co., Chartered Accountants, of 30 Cornhill, London, E.C.3, write as follows:—

“F.C.B. has been employed as our Telephone Operator since February, 1944, and we would like



*At Moore, Stephens & Co., 30 Cornhill, London, E.C.3.  
The operator is equipped with his own Braille  
shorthand machine and Braille-scale typewriter.  
He is trained to type records of numbers and calls,  
and to take down messages.*

**NOTE.** *Up to the time of production of this  
booklet, the P.B.Ex. board with shutters is the  
suitable type for non-sighted operators. Dual-  
control and light-operated boards are not recommended.*

## COMMERCIAL APPOINTMENTS - CONTINUED

to record that during that time the switchboard, which we regard as a most important part of our organisation, has been handled with considerable skill and tact.

F.B. overcame the practical difficulties of his disability within a few months, and his retentive memory, assisted by the Braille Directory that he has compiled, has made him an invaluable member of our staff. We recommend other employers to reap the benefit of our own experience by employing a blind person who, we are sure, will prove worthy of their support."

The Telephony Training Course, through which each trained N.I.B. Telephony Student passes, consists of a four- to six-months' instruction covering the following aspects of the work.

1. A course in the use of the shorthand machine and touch-typing.

2. Instruction in diction and methods of address in social, professional, commercial and industrial switchboard operation.

3. Theoretical and practical operation of a dummy switchboard. Recording of numbers, messages, and the keeping of telephone-call records.

4. Live-Board Experience. Each trainee has experience on a 10-line 50-extension switchboard before being passed out as proficient. Blind Telephonists have proved that they can operate the "Public Address" and re-diffusion of radio programme installations in many factories.

Candidates are selected with very great care by the Telephony Selection Board of the N.I.B., and every effort is made to ensure that only those with the manual dexterity and aptitude necessary for this specialised work are passed forward for training.

Numbers available for this form of training are limited, as in the case of shorthand-typists, and there may not be a trained telephonist available in a particular area. If living accommodation can be found, however, there is generally a sufficient supply of experienced or trained telephonists to fill most vacancies, as the Blind are mobile and ready to move to any part of the Country.

This ease of mobility is frequently a surprise to employers who are unaccustomed to the Blind. It was a factor which was particularly demonstrated during the 1939-1945 War, when numbers of non-sighted workers moved from their homes into hostels and lodgings to fill the needs of wartime production with all the facility of the Sighted. What was true then is true today. In the main, the Blind of employable age, with no other physical defects than blindness, are eager and keen to work and will move anywhere to obtain it.

All they ask is the opportunity. When arriving at a new area they are, of course, not familiar with the lay-out of the place. Given a brief period of instruction, they are both able and ready in most cases to find their own way in a manner that is often uncanny to the person with little or no experience of the Blind.

The telephone switchboard is a form of employment, however, which also has its advantages for the less mobile non-sighted worker, since it involves a minimum of movement about his or her place of business. It is truly "static" and employers have, at times, selected this job and that of shorthand and typewriting as being the answer to their desire to employ the Blind.



*The Personnel Department at the New Southgate Works of Standard Telephones and Cables Limited includes a special Training Group which, amongst its activities, concerns itself with the recruitment, training and supervision of all junior male employees. This valuable work is being ably assisted by Mr. E. J. Hart, who was totally blinded by enemy action towards the end of the war. Before losing his sight, Mr. Hart had gained a wide industrial experience during many years of service with the Company, and this knowledge enabled him to fit admirably into his present position.*

# HOW TO OBTAIN BLIND LABOUR

**T**HE Ministry of Labour and National Service have details of registered Blind and Partially-Blind Persons in each area on their Register of Disabled Persons. It may not follow, however, that this list is complete, as newly-blinded cases may be ready to leave the N.I.B. Homes of Rehabilitation and they may not have registered as Disabled Persons. If, therefore, the local office of the Ministry has no cases to offer, employers are asked to get in touch with the N.I.B. Industrial Employment and Placement Service, whose officers operate in the areas indicated below.

## **Lancashire, Cheshire, Yorkshire, Cumberland, Westmorland, Northumberland, Durham :**

The Manager,  
Northern Counties Industrial Employment and Placement Service,  
17 Blenheim Terrace,  
LEEDS.

## **Counties South of the above (excluding L.C.C.)**

The Manager,  
The Industrial Employment and Placement Service,  
*or in the case of matters relative to Commercial and Office Employment,*  
The Special Investigation and Commercial Appointments Officer,  
THE NATIONAL INSTITUTE FOR THE BLIND,  
224 GREAT PORTLAND STREET,  
LONDON, W.1.

In one or two areas in England, the local Blind Welfare organisations operate their own Service. The N.I.B. will, in these cases, pass on enquiries to the appropriate quarter.



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